

REMARKS

I. Introduction

In view of the above amendments and the following remarks, reconsideration of the rejections and objections contained in the Office Action of December 26, 2008 is respectfully requested.

By this amendment claims 1, 3, 5, 7, 10, 14-16, and 19 have been amended, claims 20-33 have been canceled without prejudice or disclaimer to the subject matter contained therein, and claims 34-43 have been added. Claims 1-5, 7-19, and 34-43 are now pending in the application. No new matter has been added by these amendments.

The specification has been reviewed and revised. No new matter has been added by these revisions. Entry of the specification amendments is thus respectfully requested.

II. Specification

On page 2 of the Office Action the specification is objected to for minor informalities. Pages 16 and 17 have been corrected; withdrawal of this objection is respectfully requested.

III. 35 U.S.C. § 112

On pages 2 and 3 of the Office Action, claim 1 is rejected as indefinite for failing to provide antecedent basis for "the second flow passage." Claim 1 has been amended to correct this rejection; withdrawal of the rejection is respectfully requested.

IV. Prior Art Rejections

Currently, claims 1-5, 10, 13-15 and 17 under 35 U.S.C. § 102(b) as being unpatentable over Bech et al. (US 2002/0063067), claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Bech et al. in view of Rotter et al. (US 2,366,654), claims 8, 11, 16, and 18-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bech et al. in view of Fishman et al. (US 2003/0032946), claims 9 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bech et al. in view of Taylor (Non-Patent Document “U” on PTO-892 form), and claims 20-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bech et al. in view of Jolley et al. (US 4,704,255).

Claim 1 is patentable over Bech et al., Rotter et al., Fishman et al., Taylor, and Jolley et al. for the following reasons. Claim 1 requires a probe for measuring an electric potential of a cell, said probe comprising, in part, a plate having a surface; a first cavity provided in the surface of the plate, the first cavity having a bottom surface; a second cavity provided in the bottom surface of the first cavity; a first flow passage provided in the plate, the first flow passage having a first opening and a second opening, the first opening of the first flow passage opening to the second cavity, the second opening of the first flow passage opening outside the plate; a sensor element provided in the first cavity, the sensor element including a thin plate and a supporting substrate, the thin plate having a first surface and a second surface opposite to the first surface; a through-hole provided in the thin plate, the through-hole having a first opening which opens to the first surface of the thin plate and a second opening which opens to the second surface of the thin plate and the second cavity of the plate, a measuring stick having a first end and a second end, the first end being connected with the plate; and a tube connected to the second opening of the first flow passage, the tube extending along the measuring stick to the second end of the measuring stick, wherein the supporting substrate of the sensor element is provided in the first

cavity of the plate, wherein the first flow passage is configured to allow fluid to flow in the plate such that the sucking device is operable to suck the fluid flowing in the first flow passage.

Bech et al. discloses a system for electrophysiological measurements including a housing (60), a membrane (75), two inlets (78) and (79) for adding cell solution, and two outlets (80) and (81). (See Figure 8; paragraph 0176.) As seen in Figure 8 of Bech et al., the housing appears to be level, as indicated by the fluid levels across the top, with fluid retained in the inlets and outlets feeding canals (77) and (78). By contrast, as shown in Figure 9 of the present application, the measuring stick and tube of claim 1 allows the probe to be submerged in culture solution (21) for measuring target cells (20). Because Bech et al. does not disclose a measuring stick having a first end and a second end, the first end being connected with the plate, Bech et al. cannot meet the requirements of claim 1. Further, Because Bech et al. does not disclose a tube connected to the second opening of the first flow passage, the tube extending along the measuring stick to the second end of the measuring stick, Bech et al. cannot meet the requirements of claim 1.

Claim 40 is patentable over Bech et al., Rotter et al., Fishman et al., Taylor, and Jolley et al. for the following reasons. Claim 40 requires a probe for measuring an electric potential of a cell, said probe being- configured for use with a sucking device, said probe comprising, in part, a plate having an upper surface; a first cavity provided in the upper surface of the plate, the first cavity having a bottom surface; a second cavity provided in the bottom surface of the first cavity; a first flow passage provided in the plate, the first flow passage having a first opening and a second opening, the first opening of the first flow passage opening to the second cavity, the second opening of the first flow passage opening outside the plate; a sensor element provided in the first cavity, the sensor element having a thickness substantially equal to a depth of the first cavity such that an upper surface of the sensor element is substantially flush with the upper

surface of the plate and a lower surface of the sensor element contacts the bottom surface of the first cavity; and a through-hole provided in the sensor element such that the second cavity is in fluid communication an external environment at the upper surface of the plate, wherein the first flow passage is configured to allow fluid to flow in the plate such that the sucking device is operable to suck the fluid flowing in the first flow passage.

The Office Action asserts the microstructured unit (74) as the sensor element of claim 1. As seen in figure 8, this unit (74) is positioned below canal 77 in a mid-region of housing 60. In contrast, the sensor element of the present invention is provided in a first cavity and has a thickness substantially equal to the depth of the first cavity such that an upper surface of the sensor element is substantially flush with the upper surface of the plate and a lower surface of the sensor element contacts the bottom surface of the first cavity. This configuration allows for a simple and reliable positioning of the electrode. Because Bech et al. does not disclose the sensor element provided in a first cavity having a thickness substantially equal to the depth of the first cavity such that an upper surface of the sensor element is substantially flush with the upper surface of the plate and a lower surface of the sensor element contacts the bottom surface of the first cavity, Bech et al. cannot meet the requirements of claim 40.

Rotter et al., Fishman et al., Taylor, and Jolley et al. are cited in the Office Action as modifying references and do not overcome the deficiencies of Bech et al. discussed above. It is thus submitted that the invention of the present application, as defined in claim 1, is not anticipated nor rendered obvious by the prior art, and yields significant advantages over the prior art. Allowance is respectfully requested.

Claims 2-5, 7-19, and 34-39 depend, directly or indirectly, from claim 1 and are thus allowable for at least the reasons set forth above in support of claim 1. Claims 41-43 depend,

directly or indirectly, from claim 40 and are thus allowable for at least the reasons set forth above in support of claim 40.

In view of the foregoing amendments and remarks, inasmuch as all of the outstanding issues have been addressed, Applicants respectfully submit that the present application is in complete condition for issuance of a formal Notice of Allowance, and action to such effect is earnestly solicited.

Should any issues remain after consideration of the within response, however, the Examiner is invited to telephone the undersigned at the Examiner's convenience. If any fee beyond that submitted herewith, or extension of time is required to obtain entry of this Amendment, the undersigned hereby petitions the Commissioner to grant any necessary time extension and authorizes charging Deposit Account 23-0975 for any such fee not submitted herewith.

Respectfully submitted,

Masaya NAKATANI et al.

/Andrew D. St.Clair/

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Andrew D. St.Clair
Registration No. 58,739
Attorney for Applicants

ADS/MSH/rgf
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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